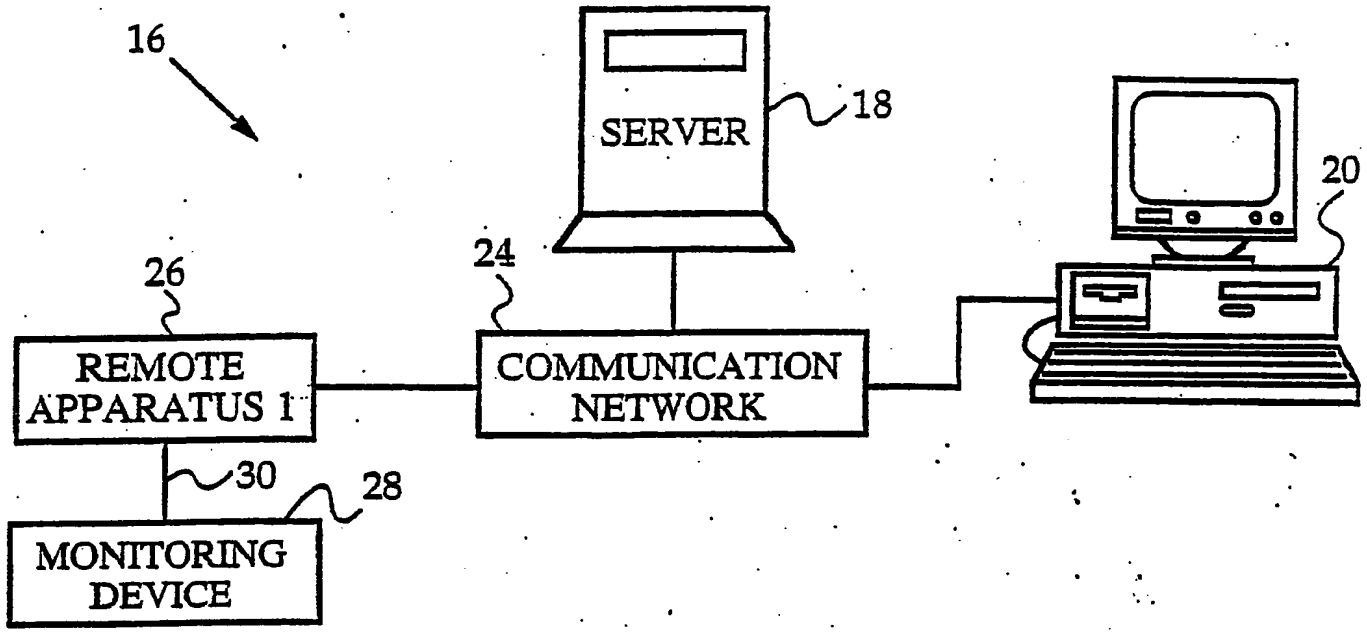

16
SERVER
18
20
24
26
REMOTE APPARATUS 1
COMMUNICATION NETWORK
30
28
MONITORING DEVICE

FIG. 1

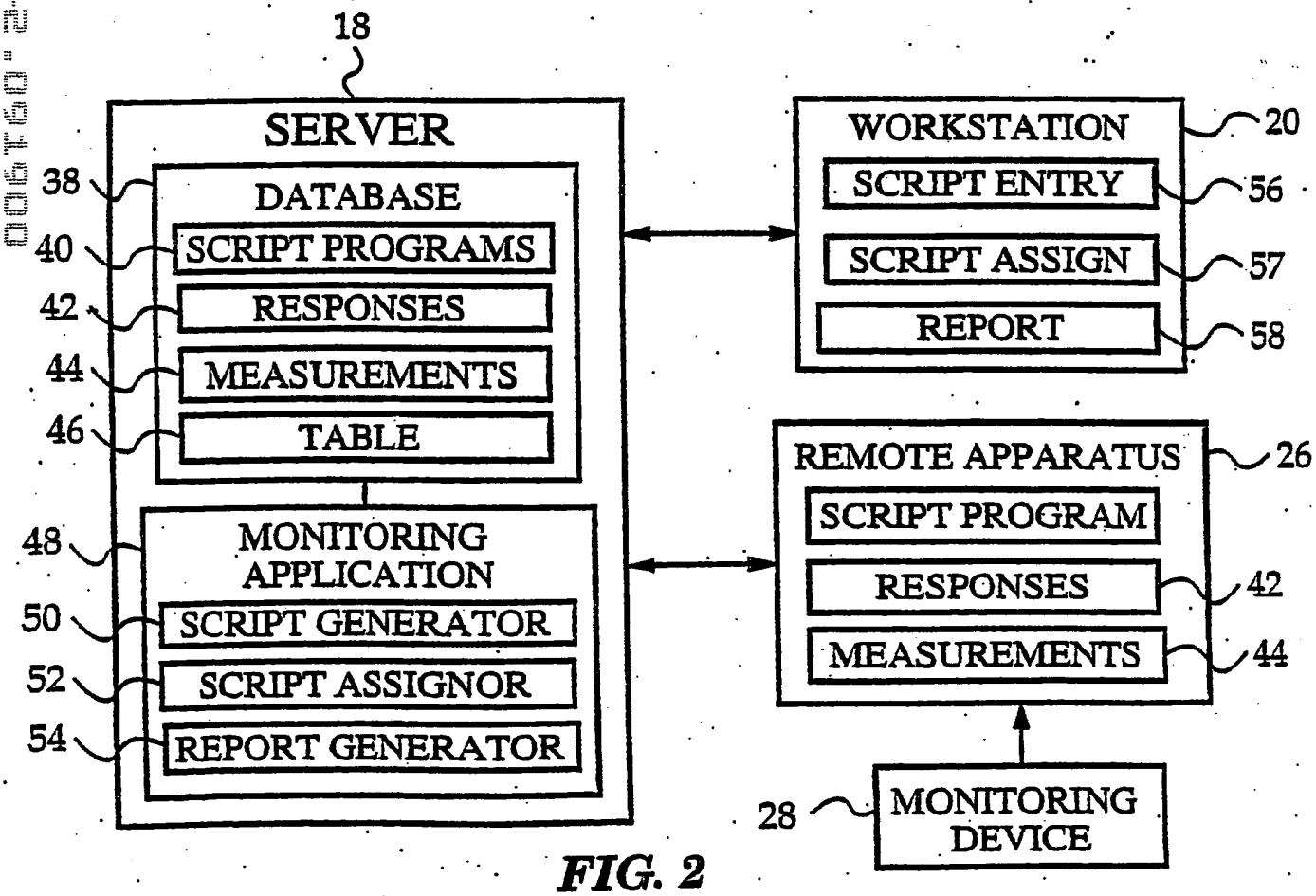

18
SERVER
38
DATABASE
40
SCRIPT PROGRAMS
42
RESPONSES
44
MEASUREMENTS
46
TABLE
48
MONITORING APPLICATION
50
SCRIPT GENERATOR
52
SCRIPT ASSIGNOR
54
REPORT GENERATOR
WORKSTATION
20
SCRIPT ENTRY
56
SCRIPT ASSIGN
57
REPORT
58
REMOTE APPARATUS
26
SCRIPT PROGRAM
RESPONSES
42
MEASUREMENTS
44
28
MONITORING DEVICE

FIG. 2

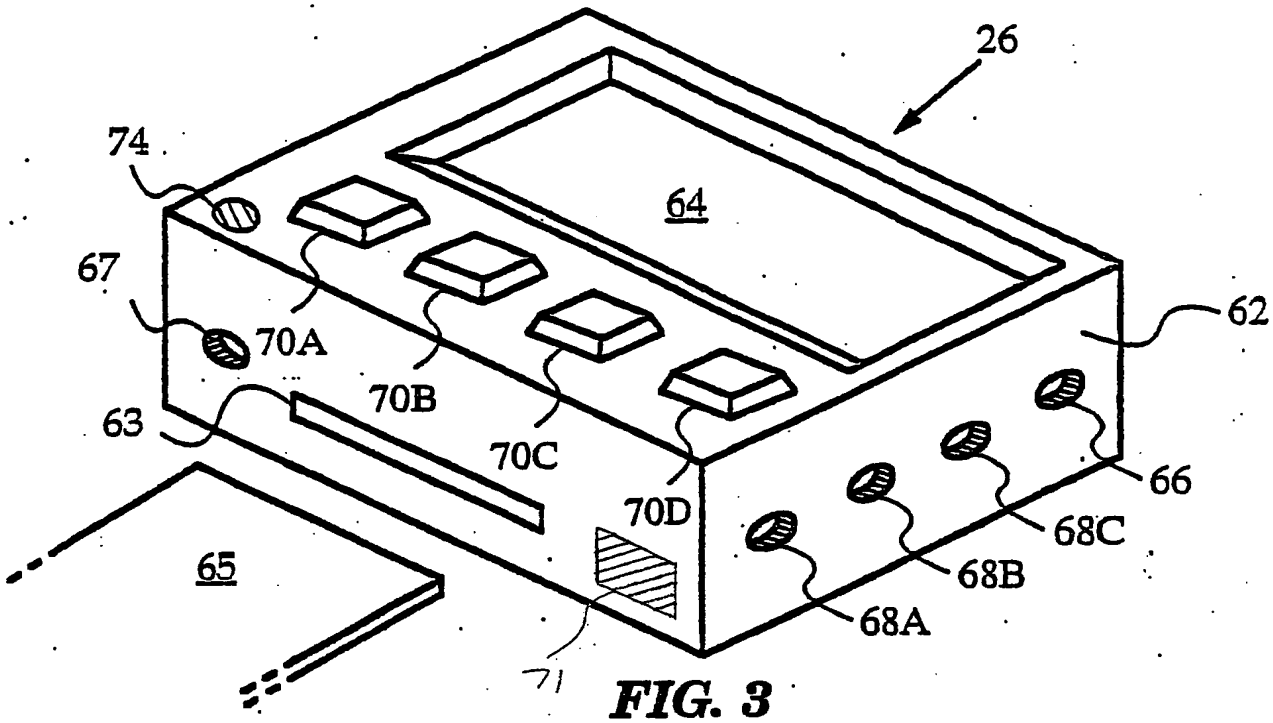

26
74
64
67
70A
70B
70C
70D
62
63
66
68C
68B
68A
65
71

FIG. 3

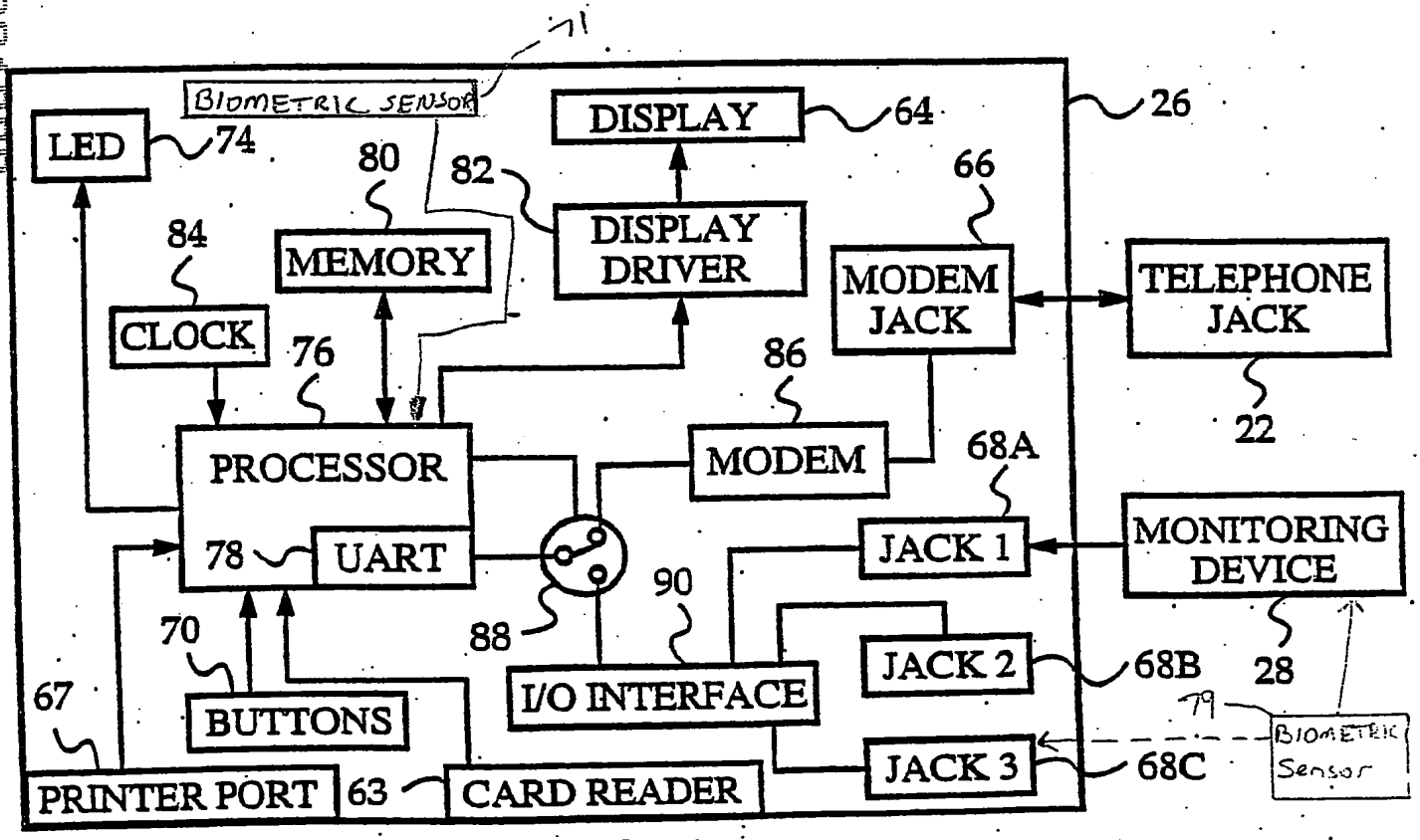

71
BIOMETRIC SENSOR
LED
74
DISPLAY
64
26
80
82
66
84
MEMORY
DISPLAY DRIVER
MODEM JACK
TELEPHONE JACK
CLOCK
76
86
22
PROCESSOR
MODEM
68A
78
UART
JACK 1
MONITORING DEVICE
90
88
70
JACK 2
68B
28
67
I/O INTERFACE
79
BUTTONS
BIOMETRIC Sensor
JACK 3
68C
PRINTER PORT
63
CARD READER

FIG. 4

006760 2hh9960

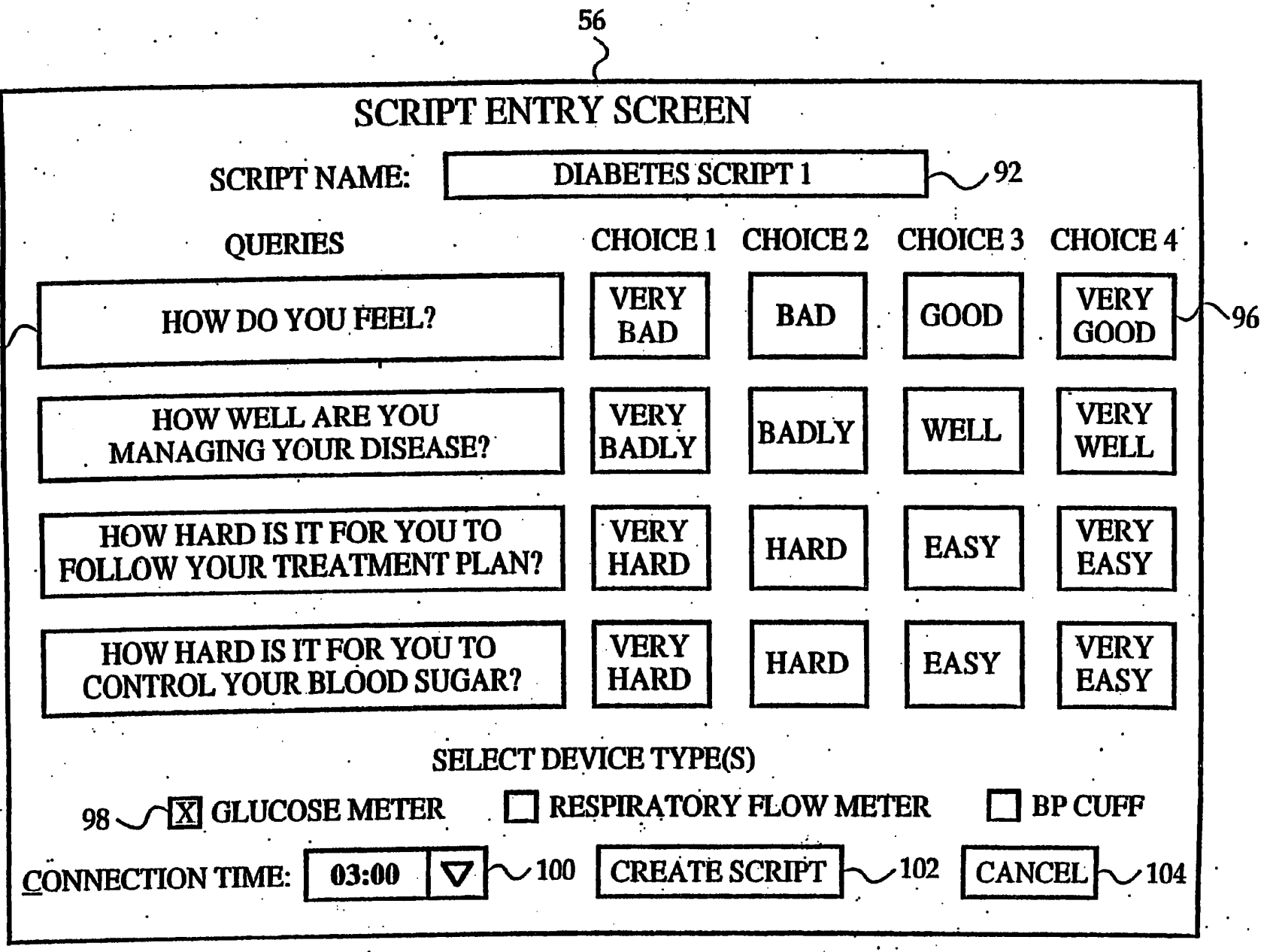


FIG. 5

NUMBER: 9001 {LF}

LED: 1 {LF}

ZAP: {LF}

CLS: {LF}

DISPLAY: PLEASE ENTER IN ID CODE, INSERT SMART
CARD, OR CONNECT MONITORING DEVICE {LF}

WAIT: {LF}

CLS: {LF}

DISPLAY: ANSWER QUERIES NOW?
PRESS ANY BUTTON TO START {LF}

WAIT: {LF}

CLS: {LF}

DISPLAY: HOW DO YOU FEEL?

VERY VERY
BAD BAD GOOD GOOD {LF}

INPUT: OOOO {LF}

CLS: {LF}

DISPLAY: HOW WELL ARE YOU
MANAGING YOUR DISEASE?
VERY VERY
WELL BADLY WELL WELL {LF}

INPUT: OOOO {LF}

CLS: {LF}

DISPLAY: HOW HARD IS IT FOR YOU TO
FOLLOW YOUR TREATMENT PLAN?
VERY VERY
HARD HARD EASY EASY {LF}

FIG. 6A

0056-0056-2456

INPUT: OOOO {LF}

CLS: {LF}

DISPLAY: HOW HARD IS IT FOR YOU TO
CONTROL YOUR BLOOD SUGAR?
VERY VERY
HARD HARD EASY EASY {LF}

INPUT: OOOO {LF}

CLS: {LF}

DISPLAY: CONNECT GLUCOSE METER
AND PRESS ANY BUTTON
WHEN FINISHED {LF}

WAIT: {LF}

CLS: {LF}

DISPLAY: COLLECTING MEASUREMENTS {LF}

COLLECT: GLUCOSE_METER {LF}

CLS: {LF}

DISPLAY: CONNECT APPARATUS TO
TELEPHONE JACK AND
PRESS ANY BUTTON
WHEN FINISHED {LF}

WAIT: {LF}

LED: 0 {LF}

CLS: {LF}

DELAY: 03:00 {LF}

DISPLAY: CONNECTING TO SERVER {LF}

CONNECT: {LF}

{EOF}

FIG. 6B

0056750 · 24th5950

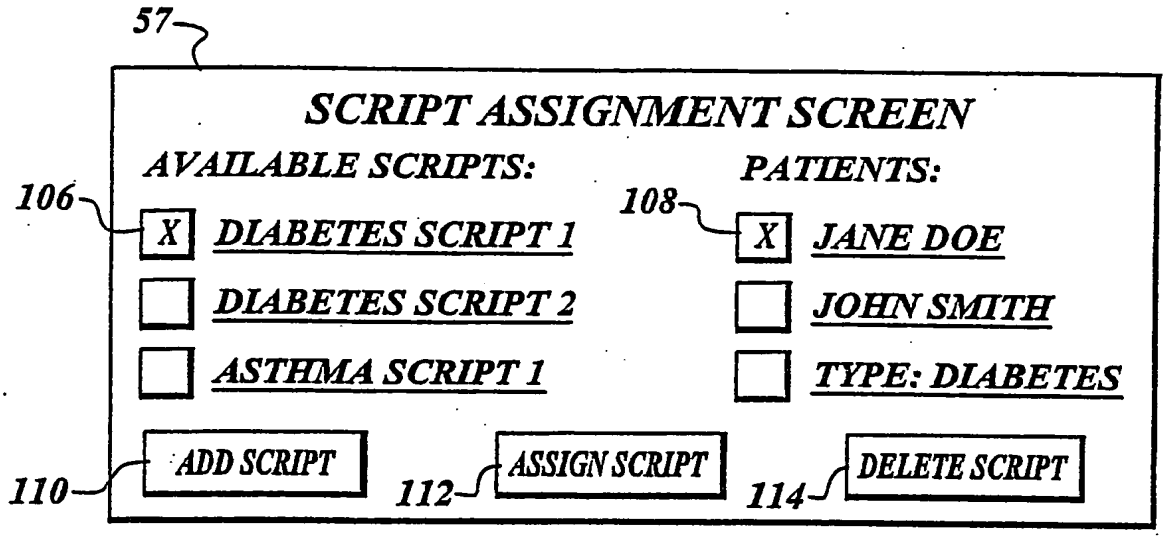


Fig. 7

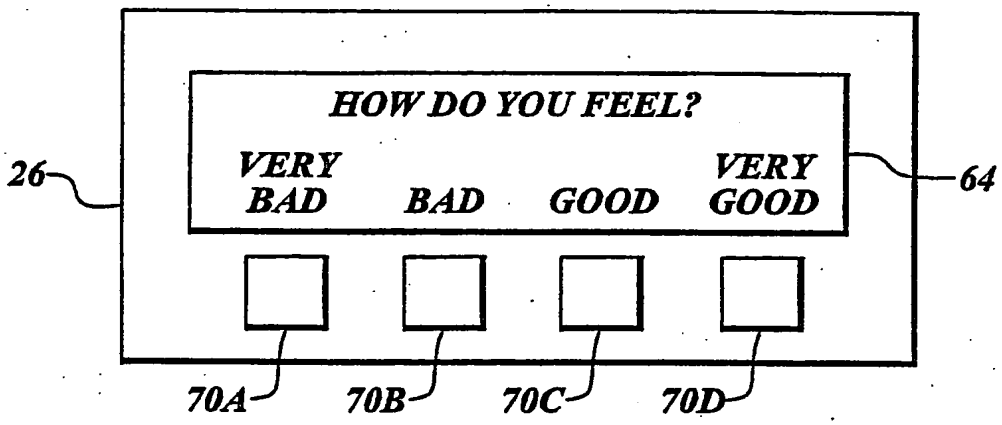


Fig. 8

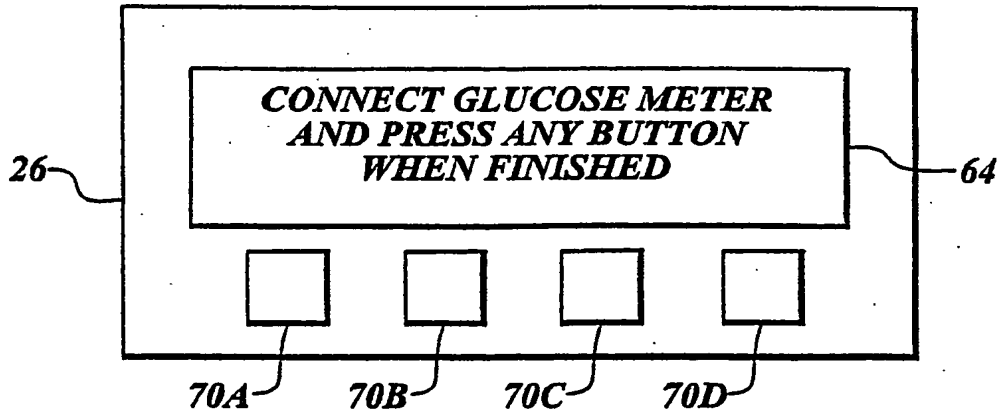


Fig. 9

006760 2hh59960

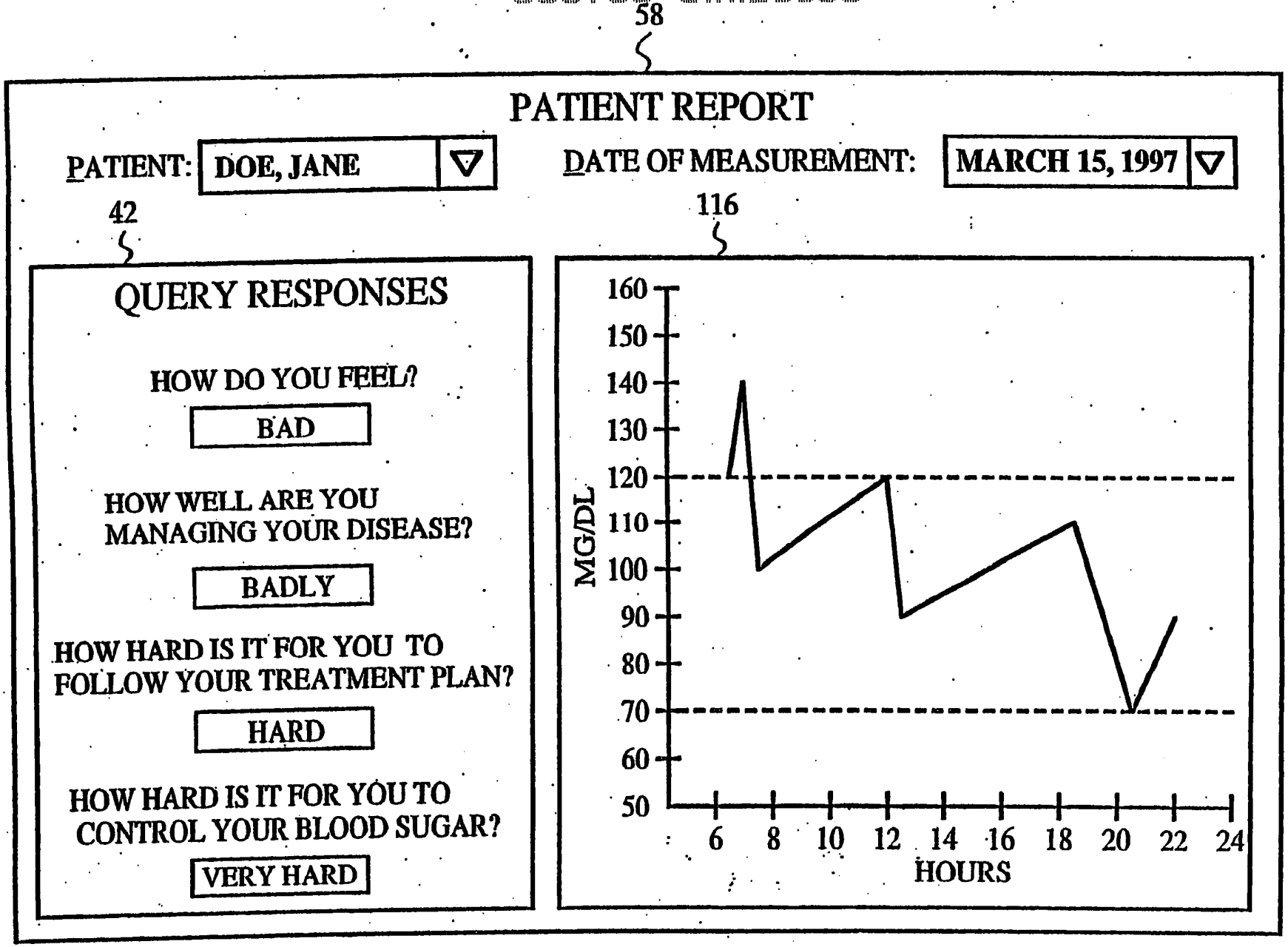
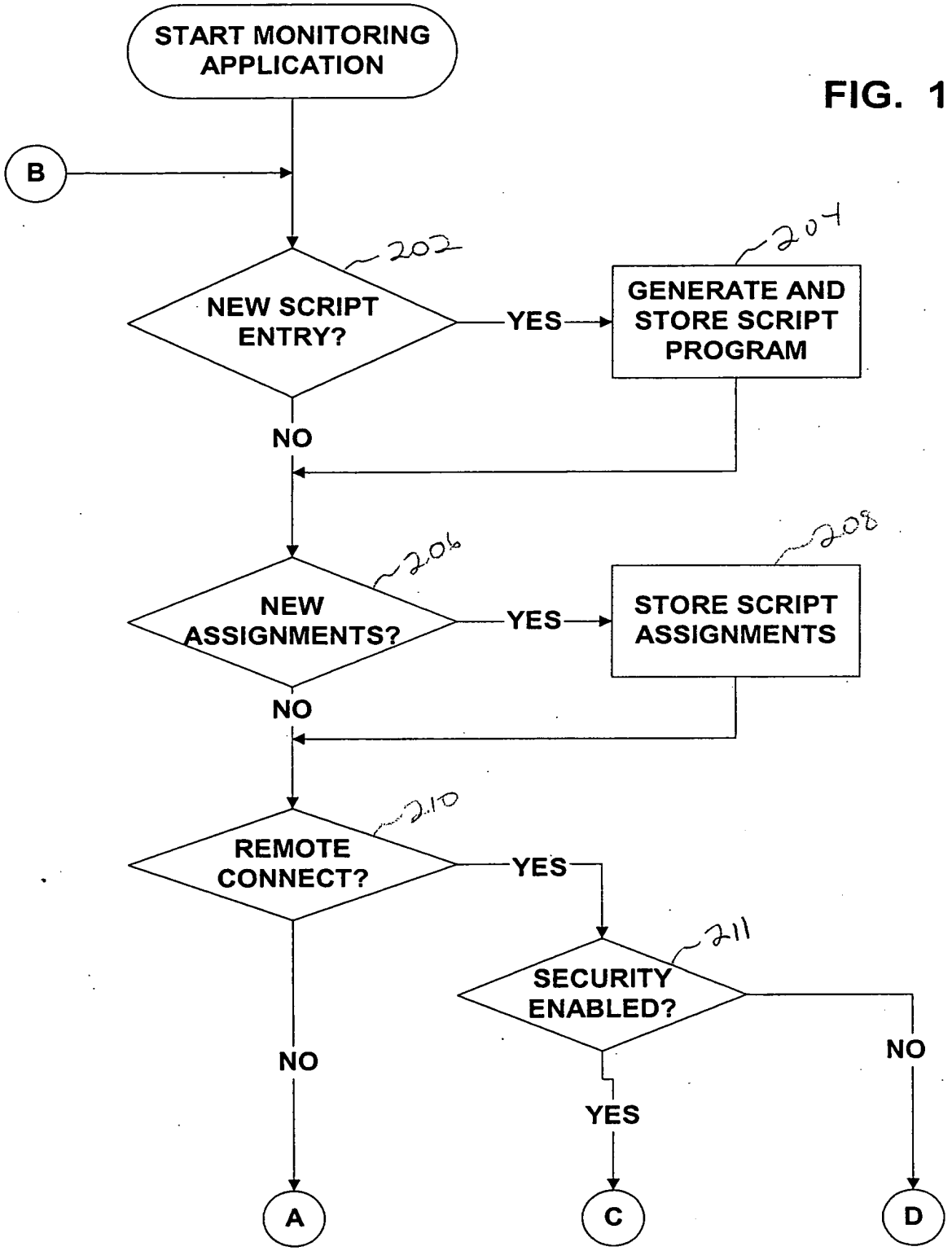


FIG. 10

0054-0054-2400

FIG. 11A



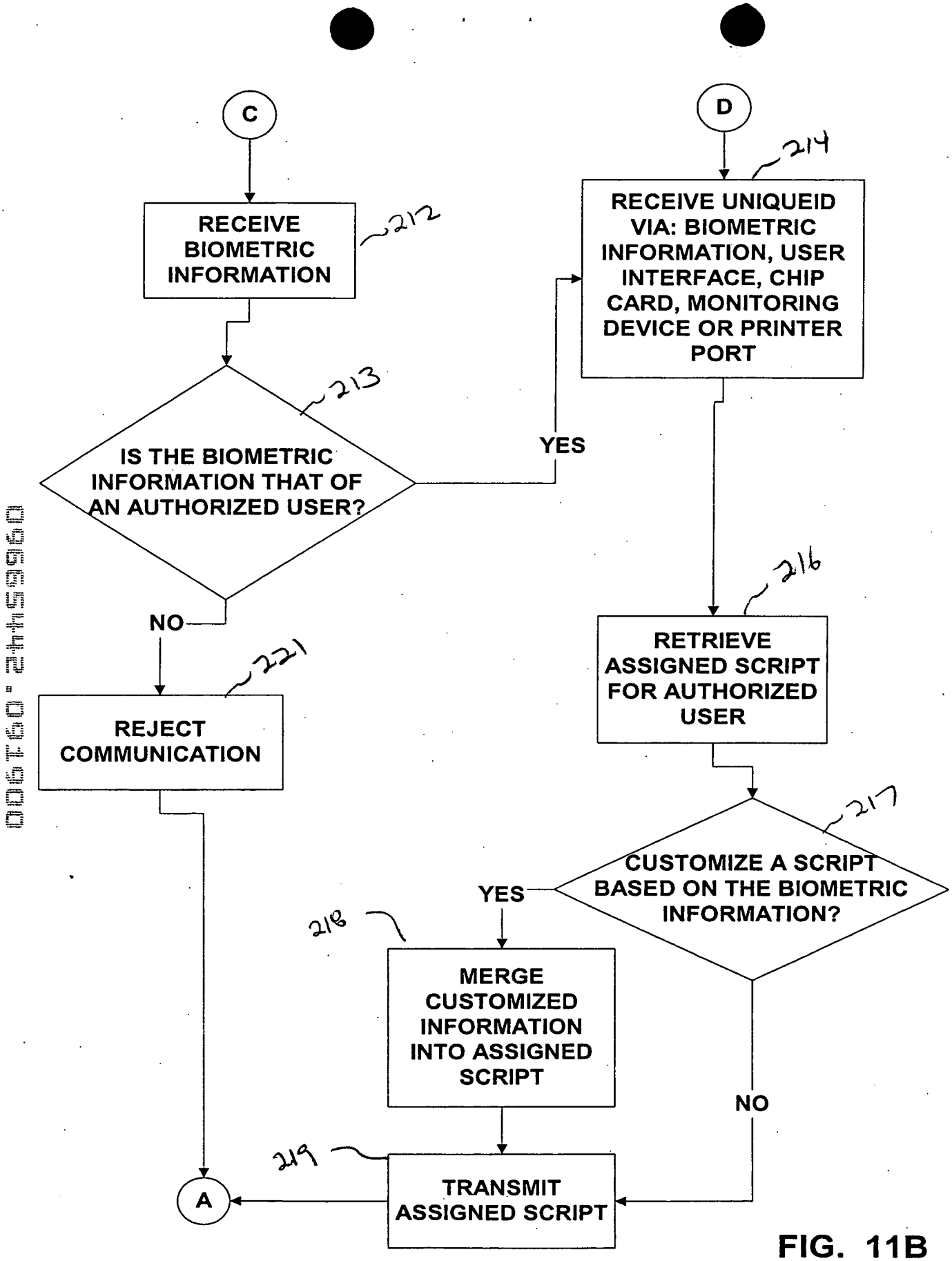

C
RECEIVE BIOMETRIC INFORMATION
212
213
IS THE BIOMETRIC INFORMATION THAT OF AN AUTHORIZED USER?
YES
NO
221
REJECT COMMUNICATION
A
D
214
RECEIVE UNIQUEID VIA: BIOMETRIC INFORMATION, USER INTERFACE, CHIP CARD, MONITORING DEVICE OR PRINTER PORT
216
RETRIEVE ASSIGNED SCRIPT FOR AUTHORIZED USER
217
CUSTOMIZE A SCRIPT BASED ON THE BIOMETRIC INFORMATION?
YES
218
MERGE CUSTOMIZED INFORMATION INTO ASSIGNED SCRIPT
NO
219
TRANSMIT ASSIGNED SCRIPT

FIG. 11B

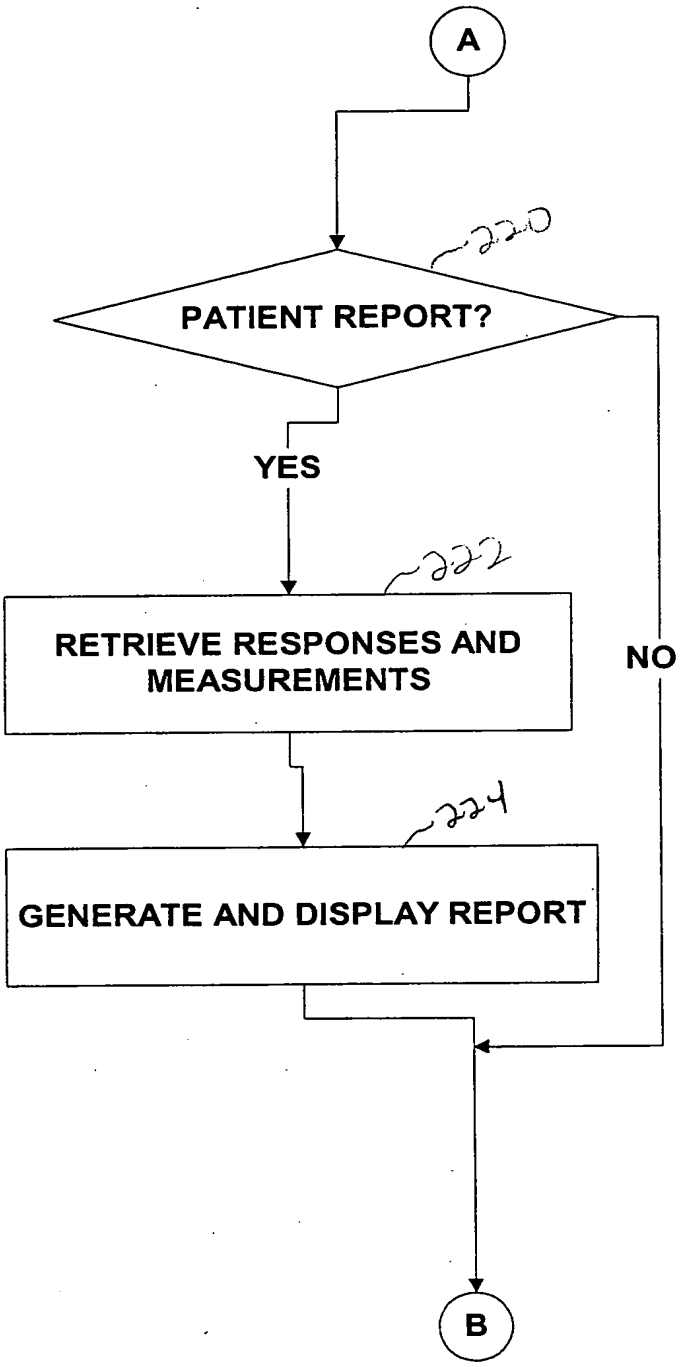

A
220
PATIENT REPORT?
YES
NO
222
RETRIEVE RESPONSES AND MEASUREMENTS
224
GENERATE AND DISPLAY REPORT
B

FIG. 11C

0066-6048-2459960

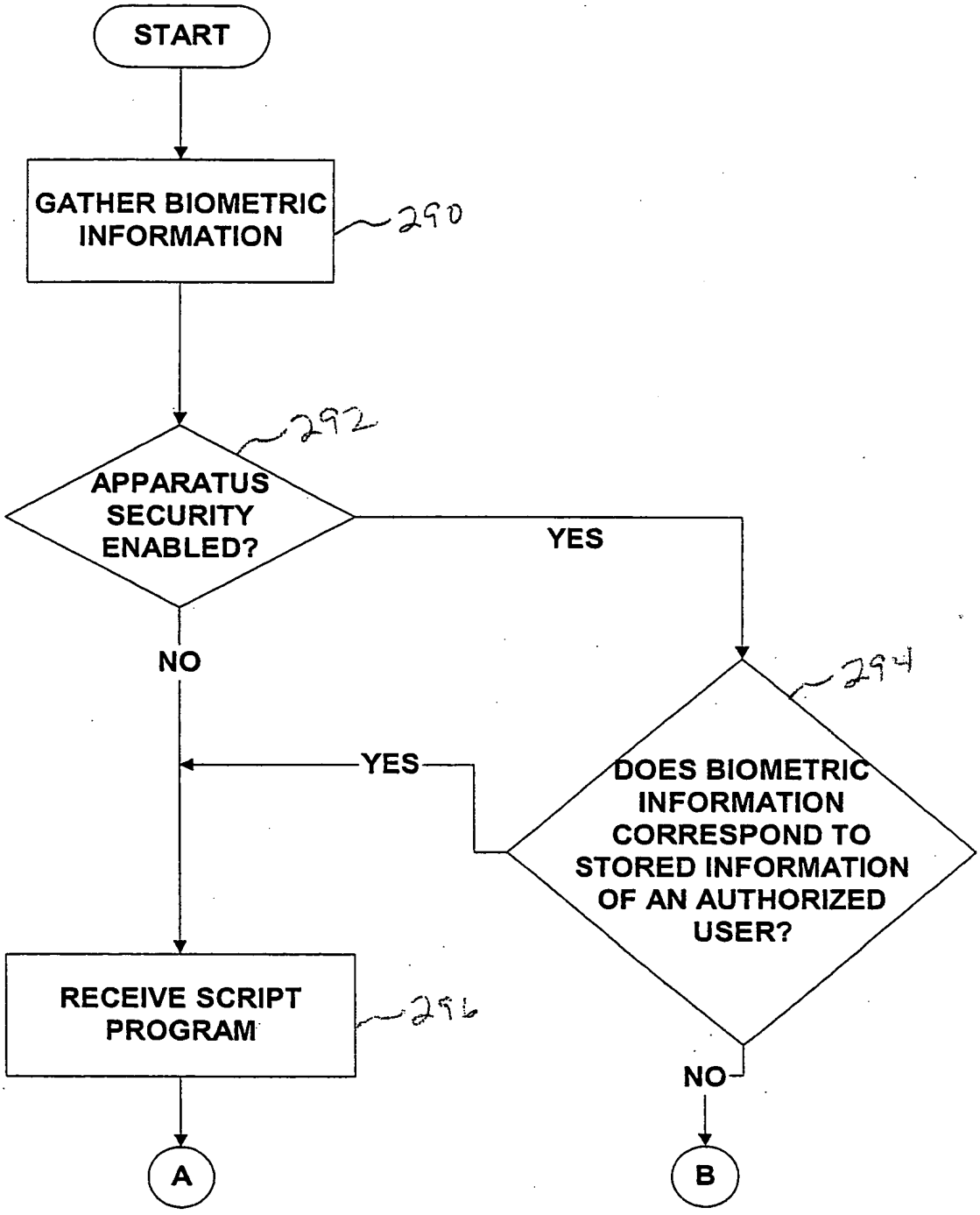


FIG. 12A

0054502-2145500

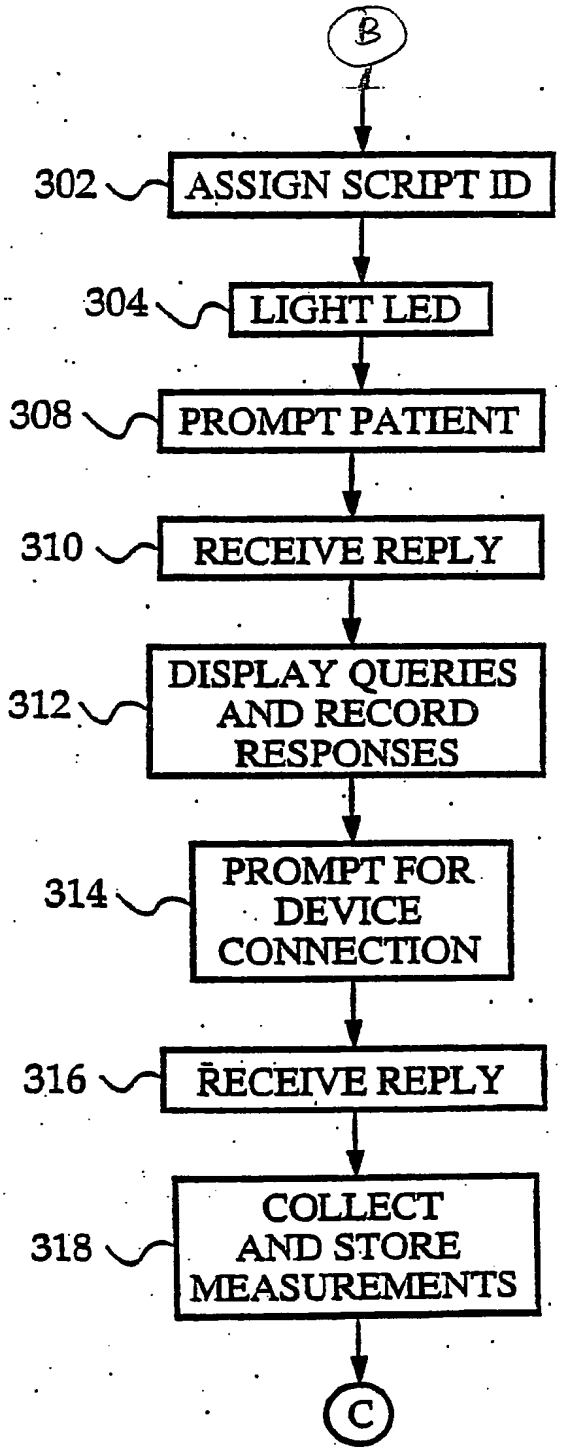


FIG. 12 B

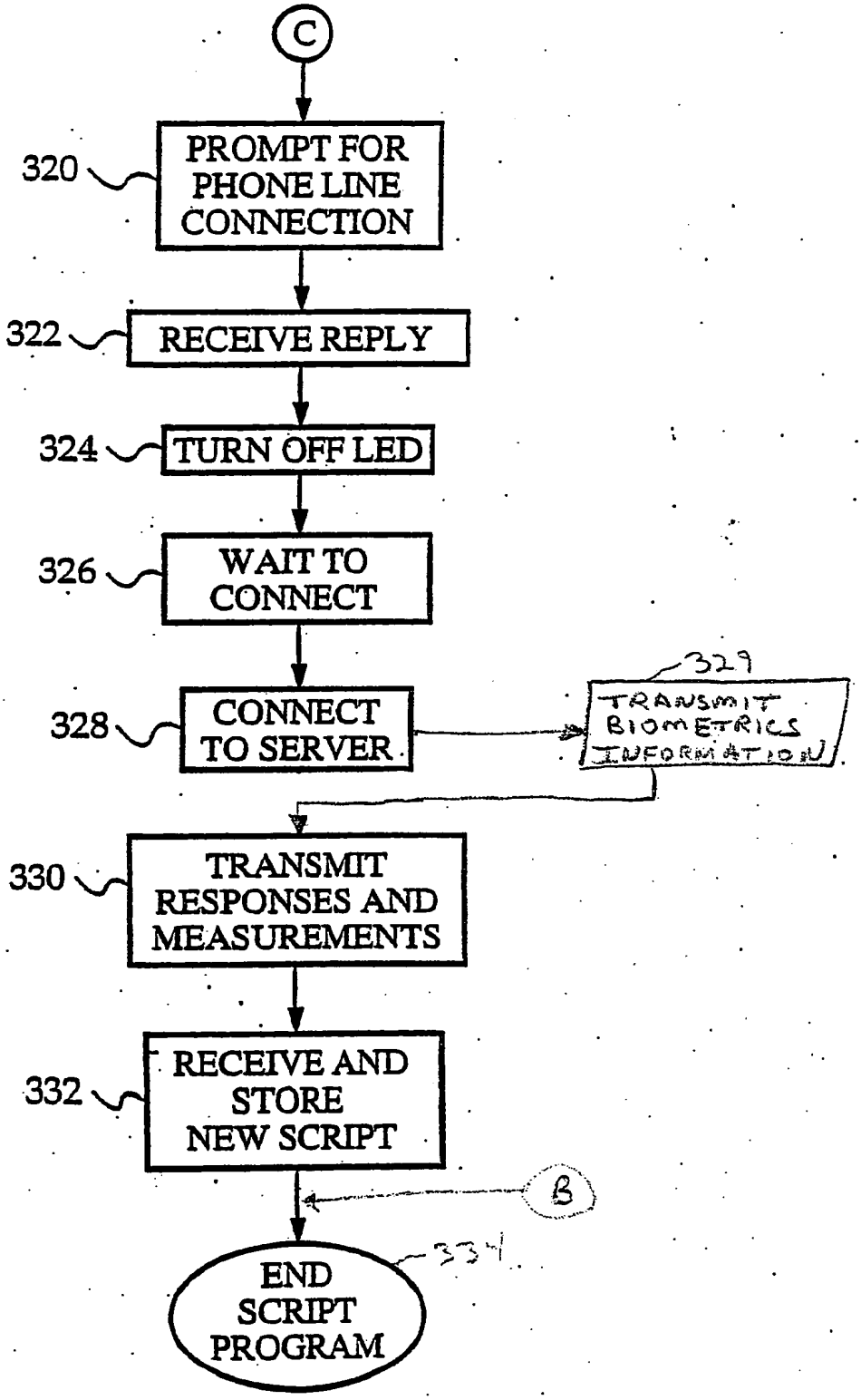

C
320
PROMPT FOR PHONE LINE CONNECTION
322
RECEIVE REPLY
324
TURN OFF LED
326
WAIT TO CONNECT
328
CONNECT TO SERVER
329
TRANSMIT BIOMETRICS INFORMATION
330
TRANSMIT RESPONSES AND MEASUREMENTS
332
RECEIVE AND STORE NEW SCRIPT
B
334
END SCRIPT PROGRAM

FIG. 12C

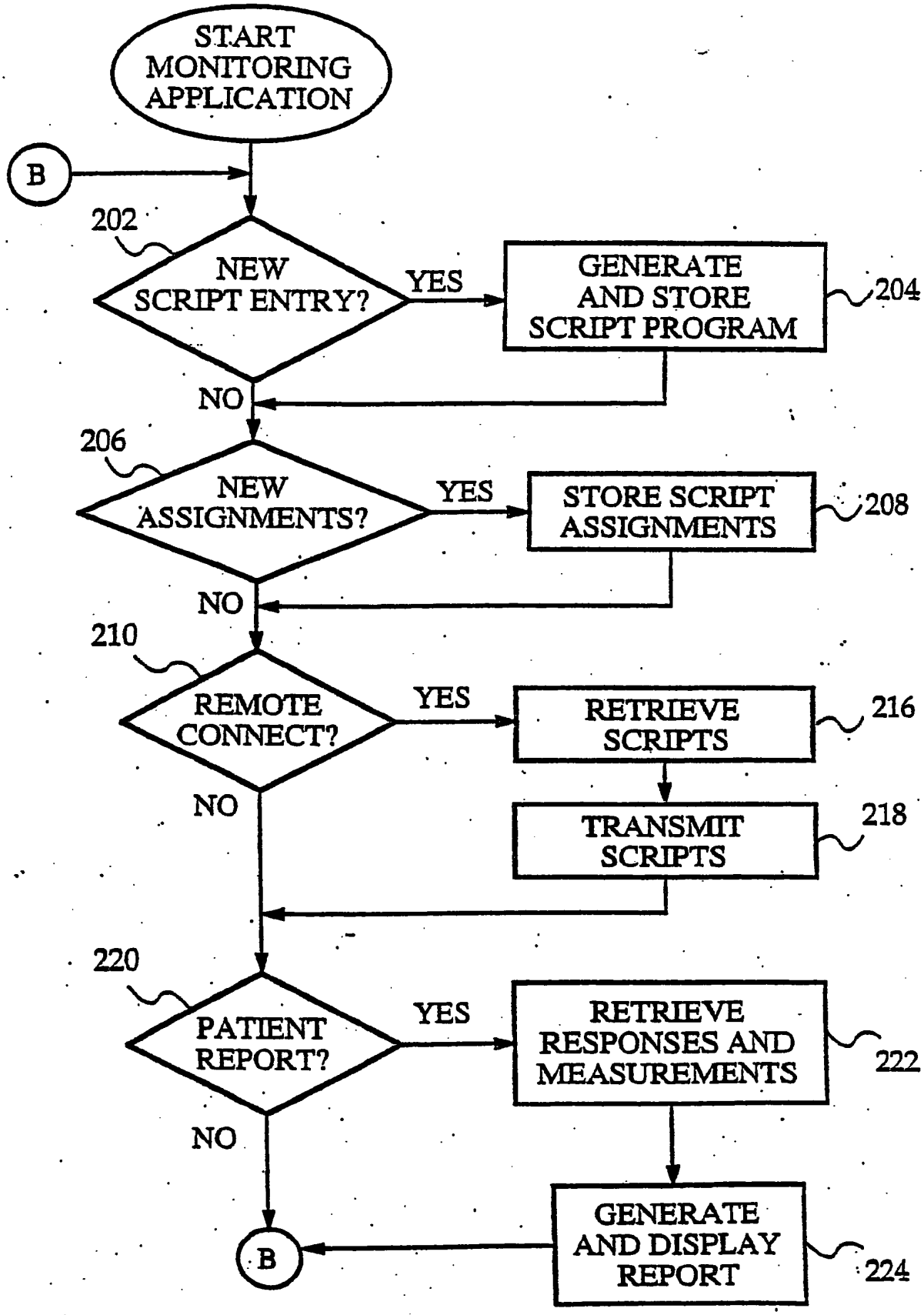

START MONITORING APPLICATION
B
202
NEW SCRIPT ENTRY?
YES
GENERATE AND STORE SCRIPT PROGRAM
204
NO
206
NEW ASSIGNMENTS?
YES
STORE SCRIPT ASSIGNMENTS
208
NO
210
REMOTE CONNECT?
YES
RETRIEVE SCRIPTS
216
NO
TRANSMIT SCRIPTS
218
220
PATIENT REPORT?
YES
RETRIEVE RESPONSES AND MEASUREMENTS
222
NO
B
GENERATE AND DISPLAY REPORT
224

FIG. 13

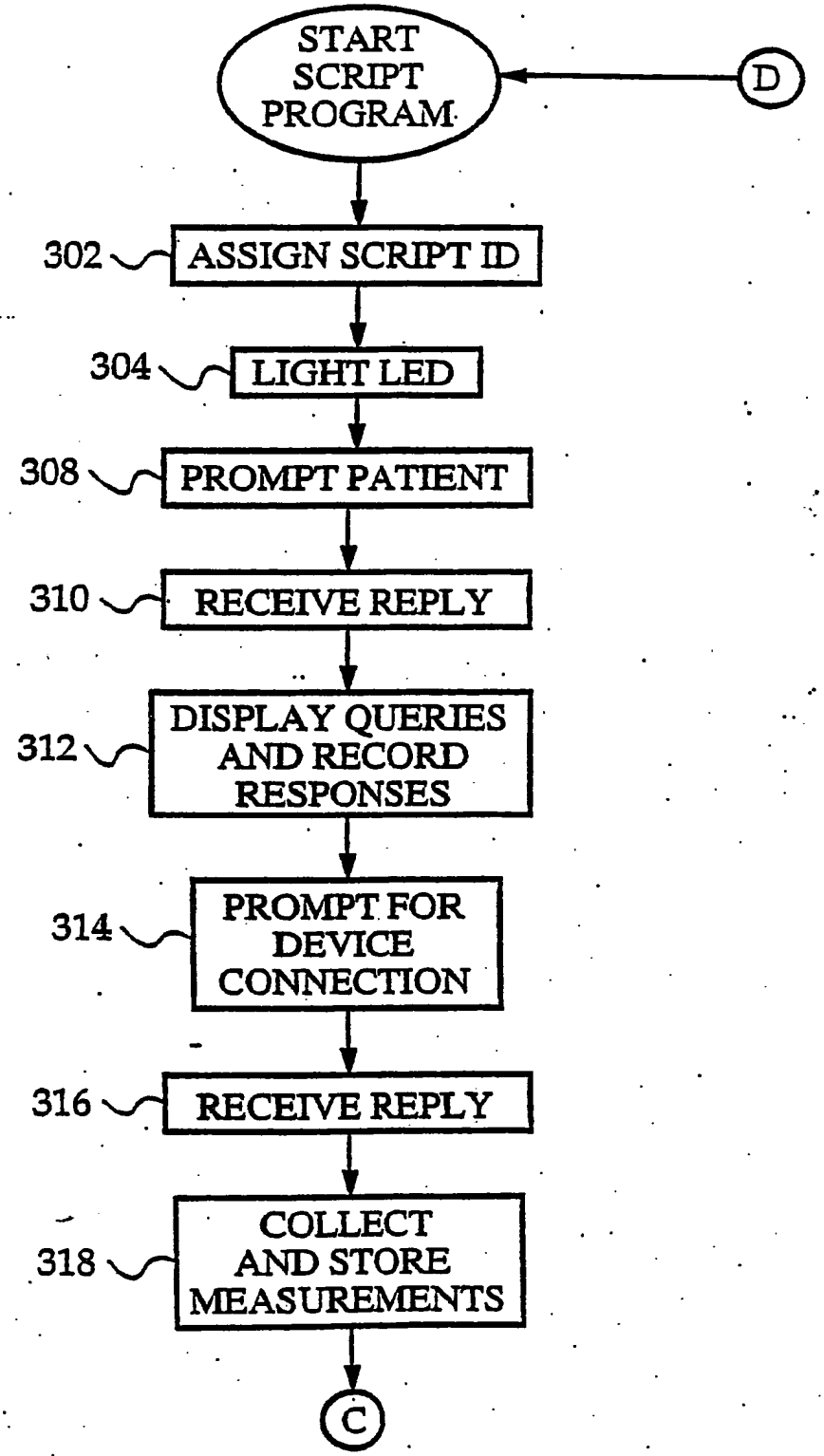

START SCRIPT PROGRAM
D
302
ASSIGN SCRIPT ID
304
LIGHT LED
308
PROMPT PATIENT
310
RECEIVE REPLY
312
DISPLAY QUERIES AND RECORD RESPONSES
314
PROMPT FOR DEVICE CONNECTION
316
RECEIVE REPLY
318
COLLECT AND STORE MEASUREMENTS
C

FIG. 14A

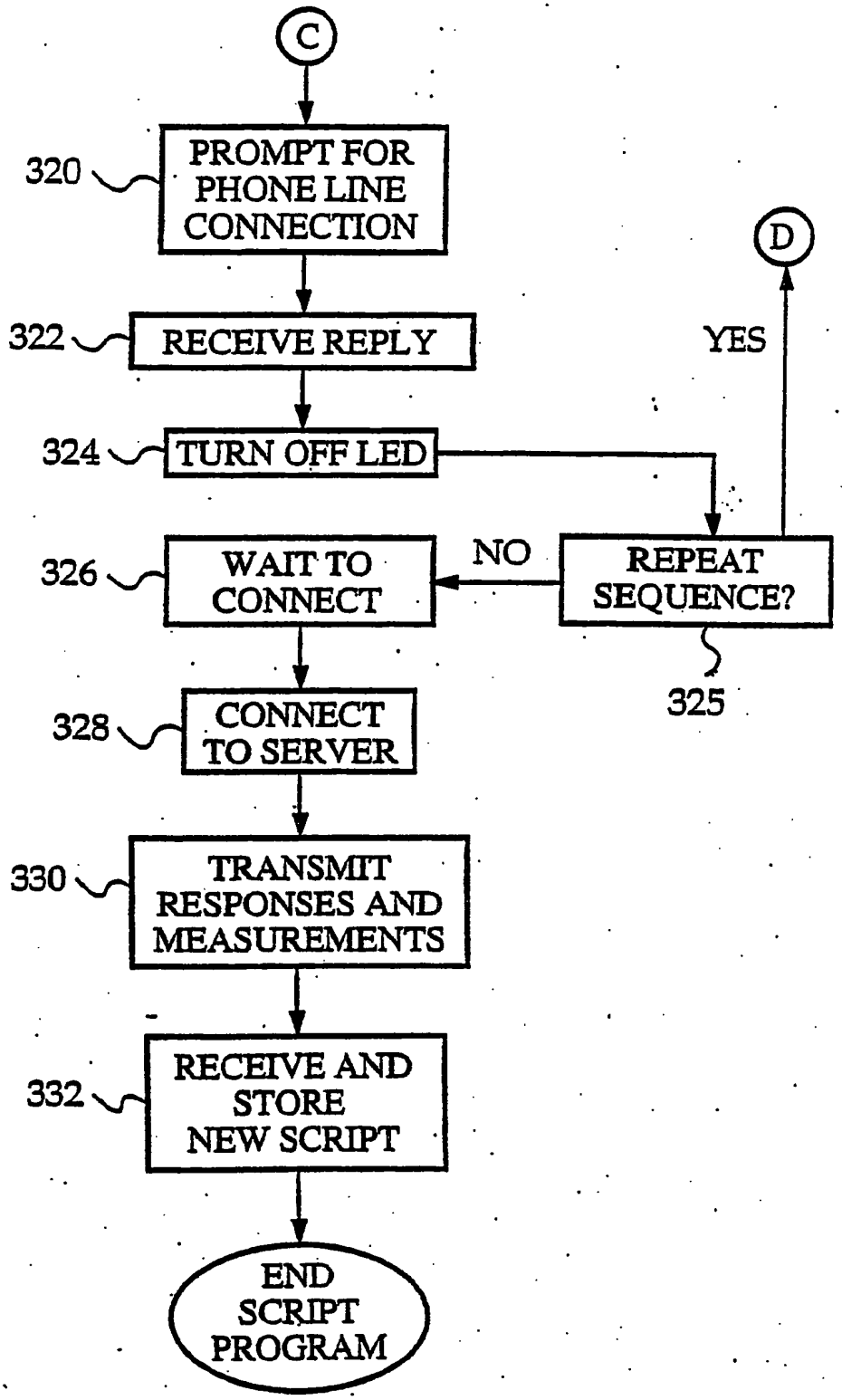

C
320
PROMPT FOR PHONE LINE CONNECTION
322
RECEIVE REPLY
324
TURN OFF LED
326
WAIT TO CONNECT
NO
REPEAT SEQUENCE?
YES
D
325
328
CONNECT TO SERVER
330
TRANSMIT RESPONSES AND MEASUREMENTS
332
RECEIVE AND STORE NEW SCRIPT
END SCRIPT PROGRAM

FIG. 14B

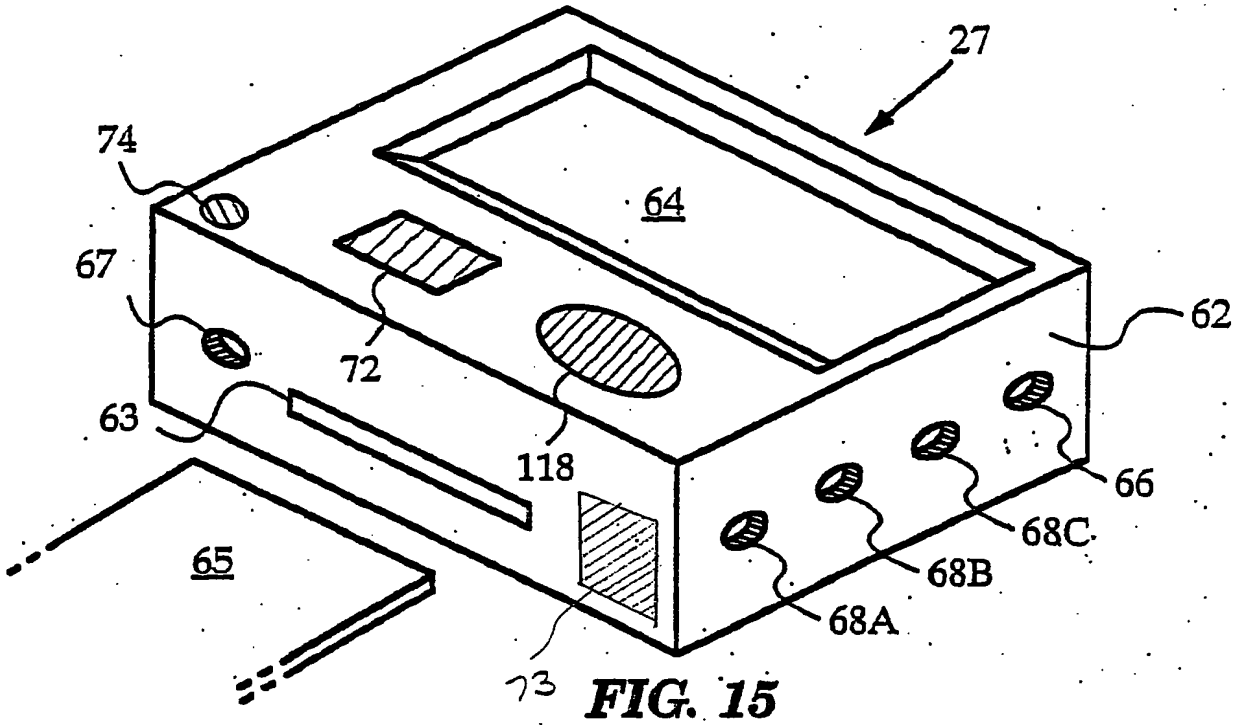

27
74
64
67
72
62
63
118
66
68C
68B
65
68A
73

FIG. 15

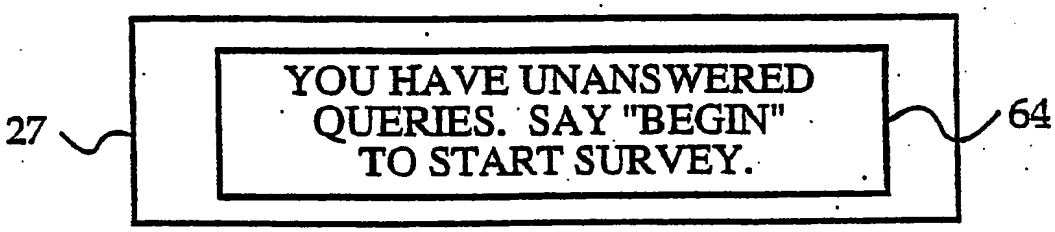

YOU HAVE UNANSWERED QUERIES. SAY "BEGIN" TO START SURVEY.
27
64

FIG. 16

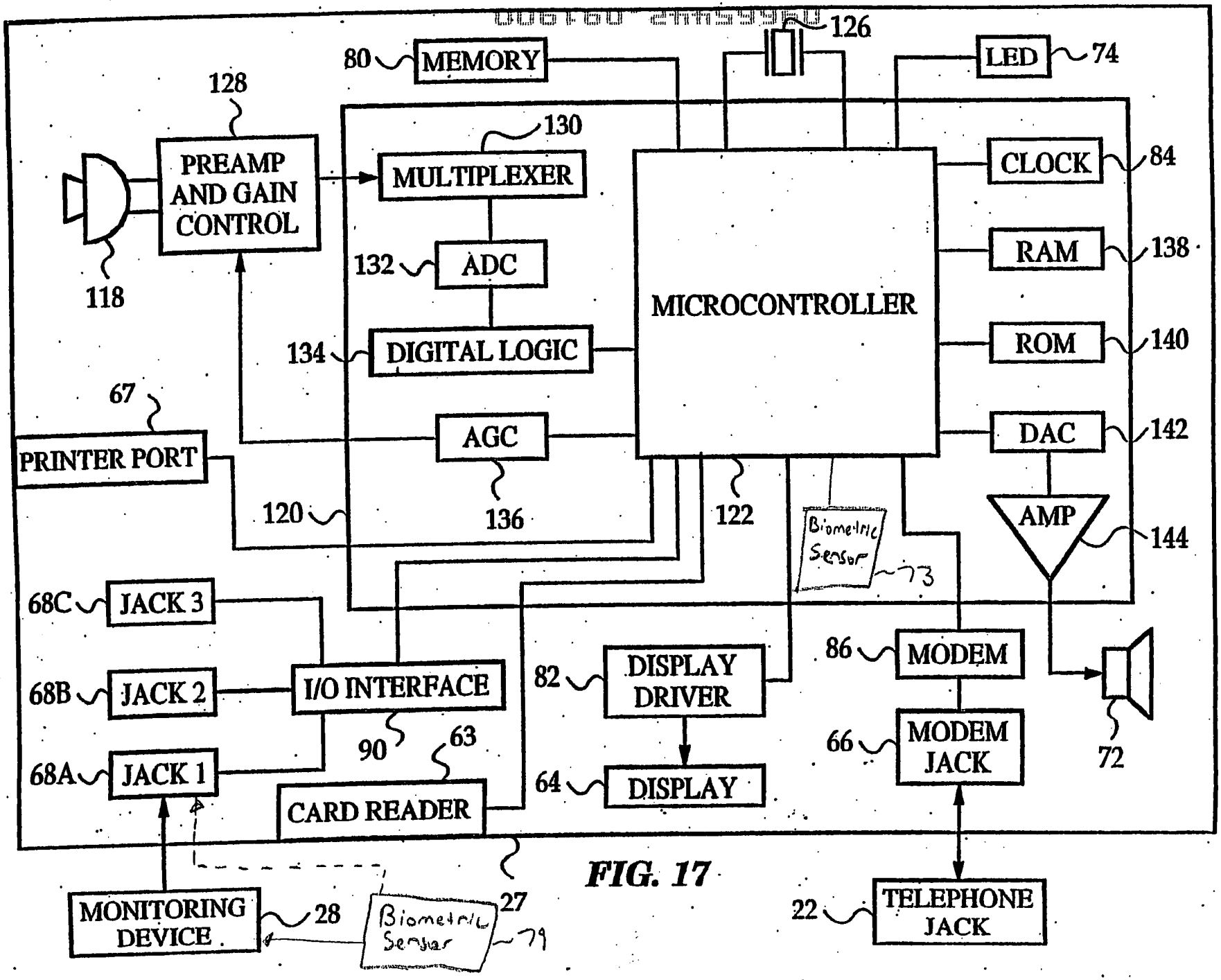

126
80
MEMORY
LED
74
128
130
PREAMP AND GAIN CONTROL
MULTIPLEXER
CLOCK
84
118
132
ADC
RAM
138
MICROCONTROLLER
134
DIGITAL LOGIC
ROM
140
67
PRINTER PORT
AGC
DAC
142
120
136
122
Biometric Sensor
73
AMP
144
68C
JACK 3
68B
JACK 2
I/O INTERFACE
82
DISPLAY DRIVER
86
MODEM
90
63
68A
JACK 1
CARD READER
64
DISPLAY
66
MODEM JACK
72
MONITORING DEVICE
28
Biometric Sensor
27
79
22
TELEPHONE JACK

FIG. 17

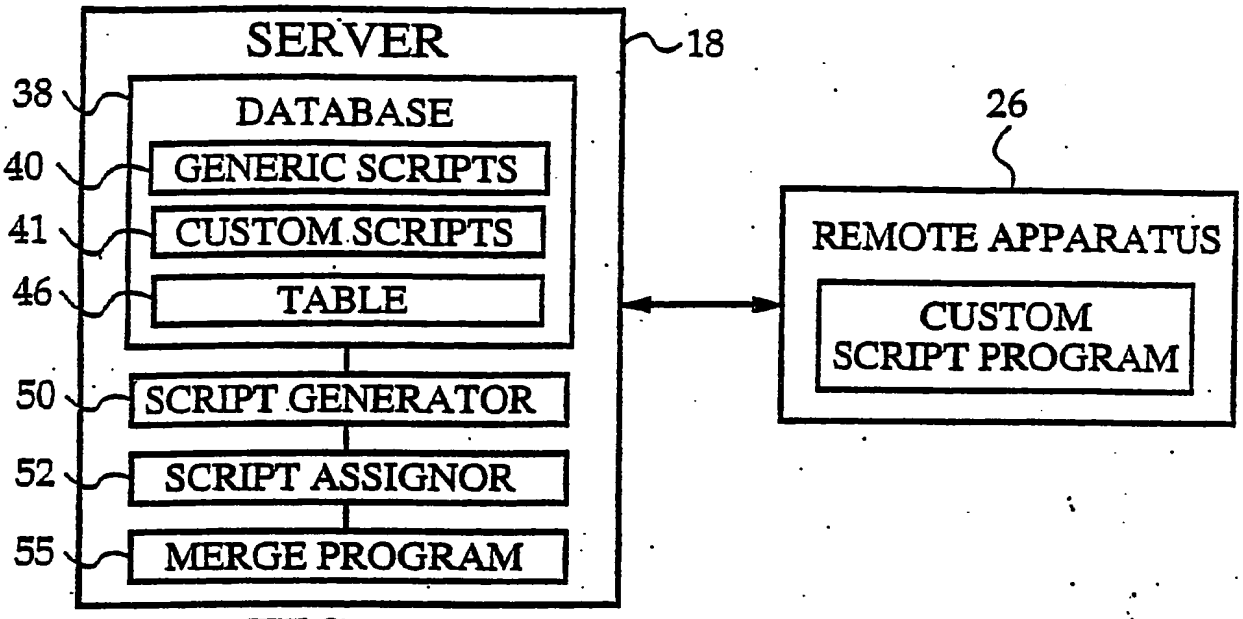


FIG. 18

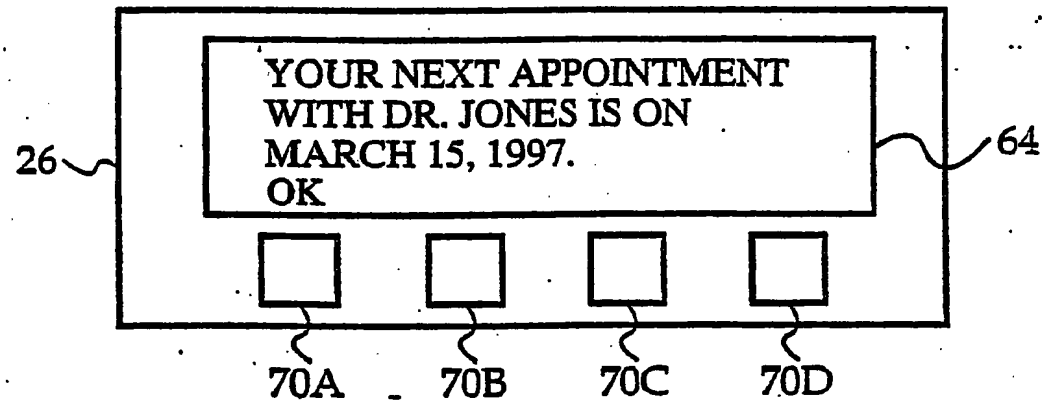


FIG. 19

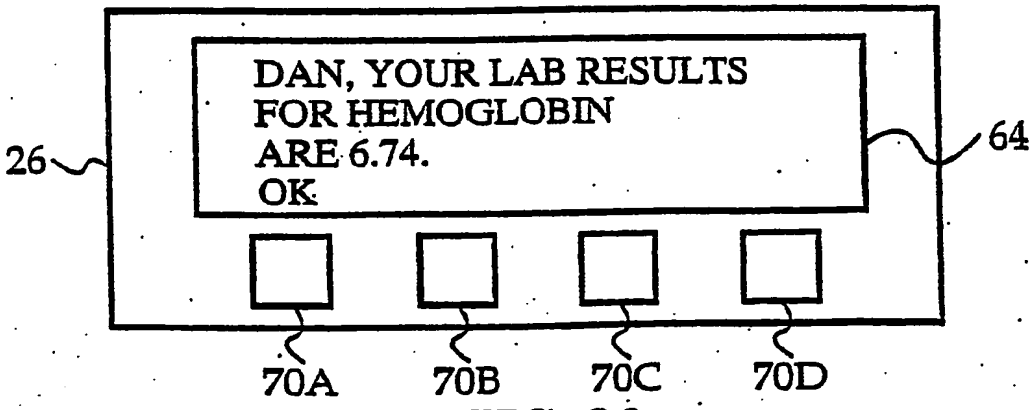


FIG. 20

006760 2hm99960

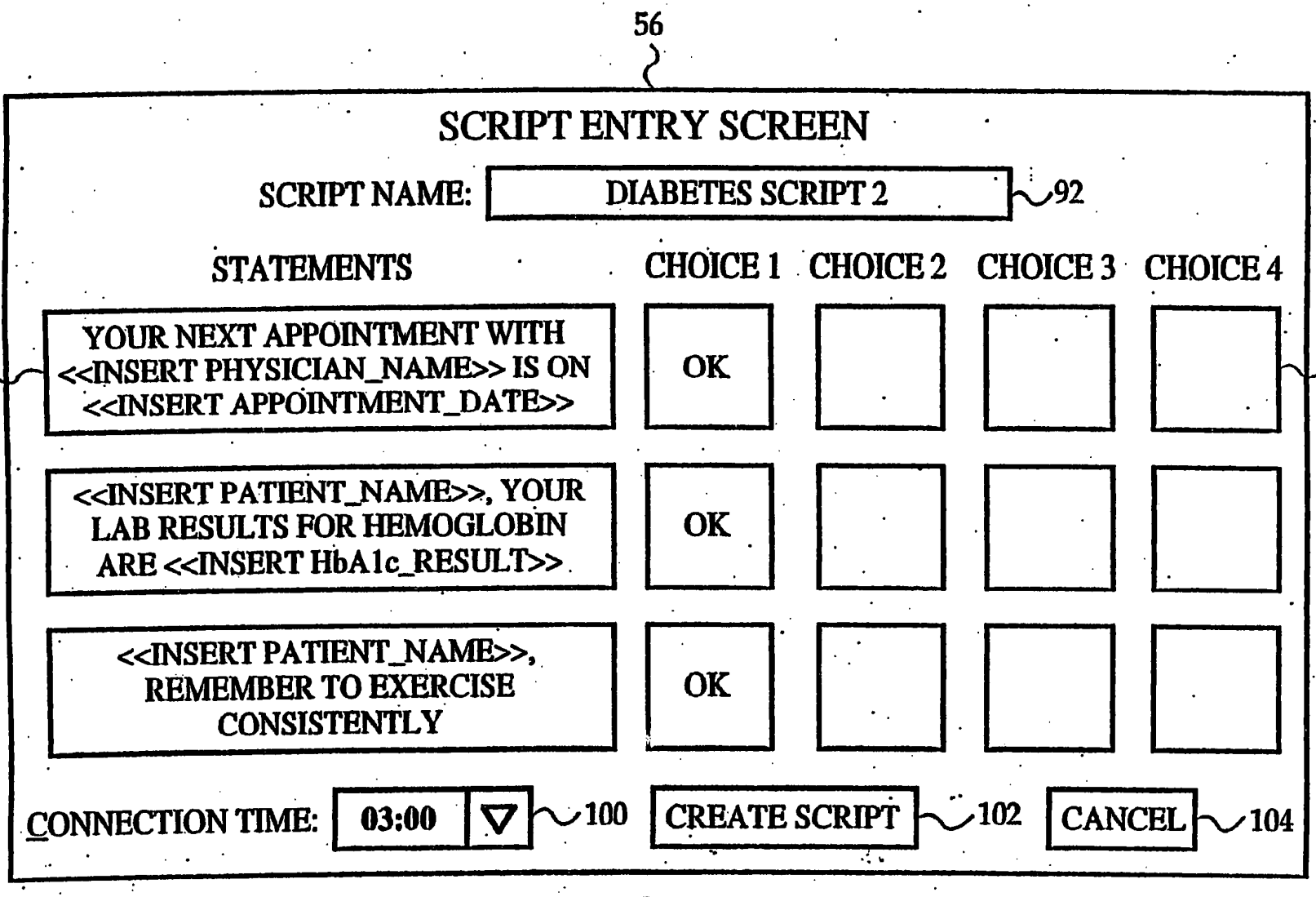


FIG. 21

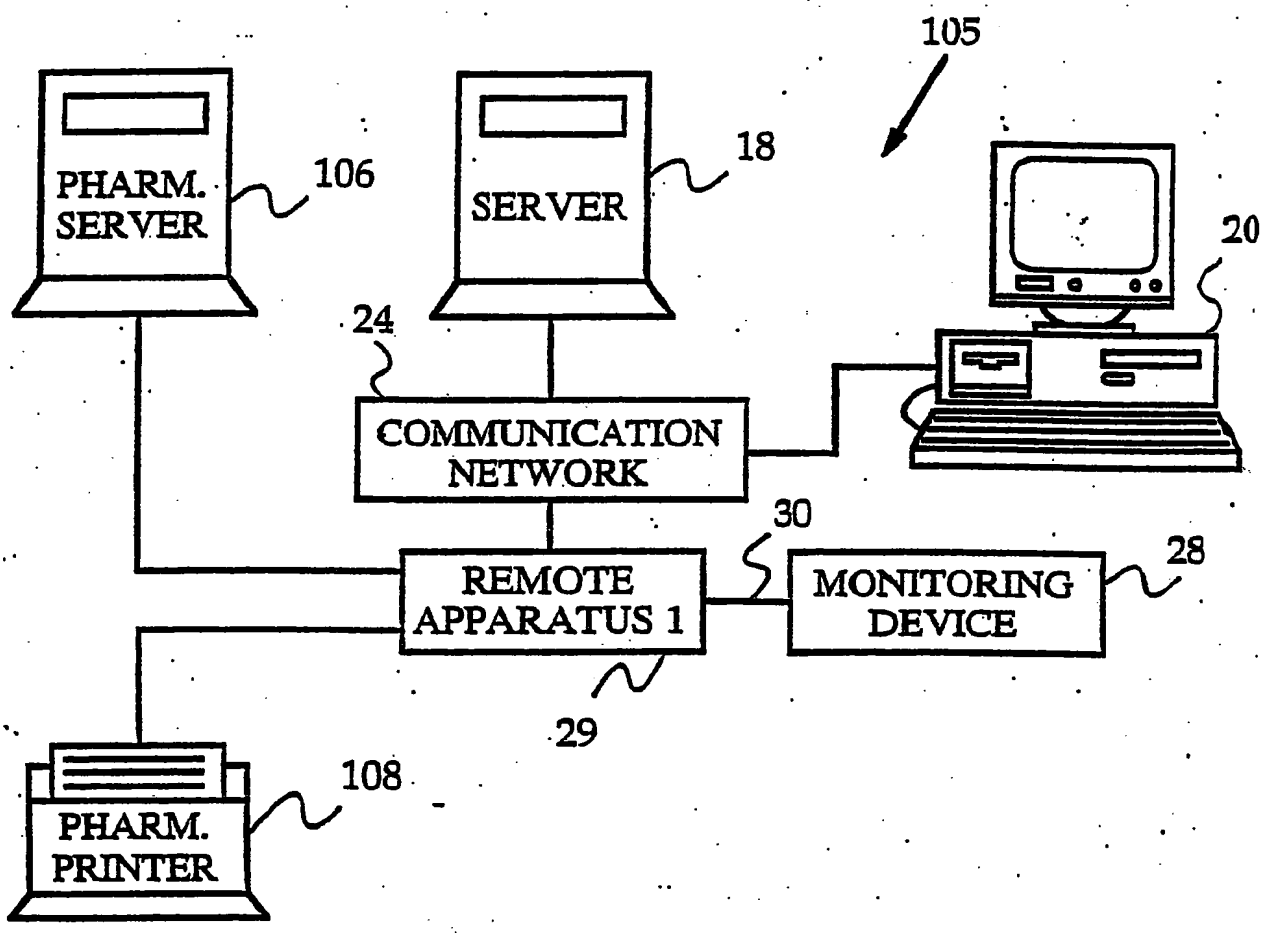

105
PHARM. SERVER
106
SERVER
18
20
24
COMMUNICATION NETWORK
30
REMOTE APPARATUS 1
MONITORING DEVICE
28
29
PHARM. PRINTER
108

FIG. 22

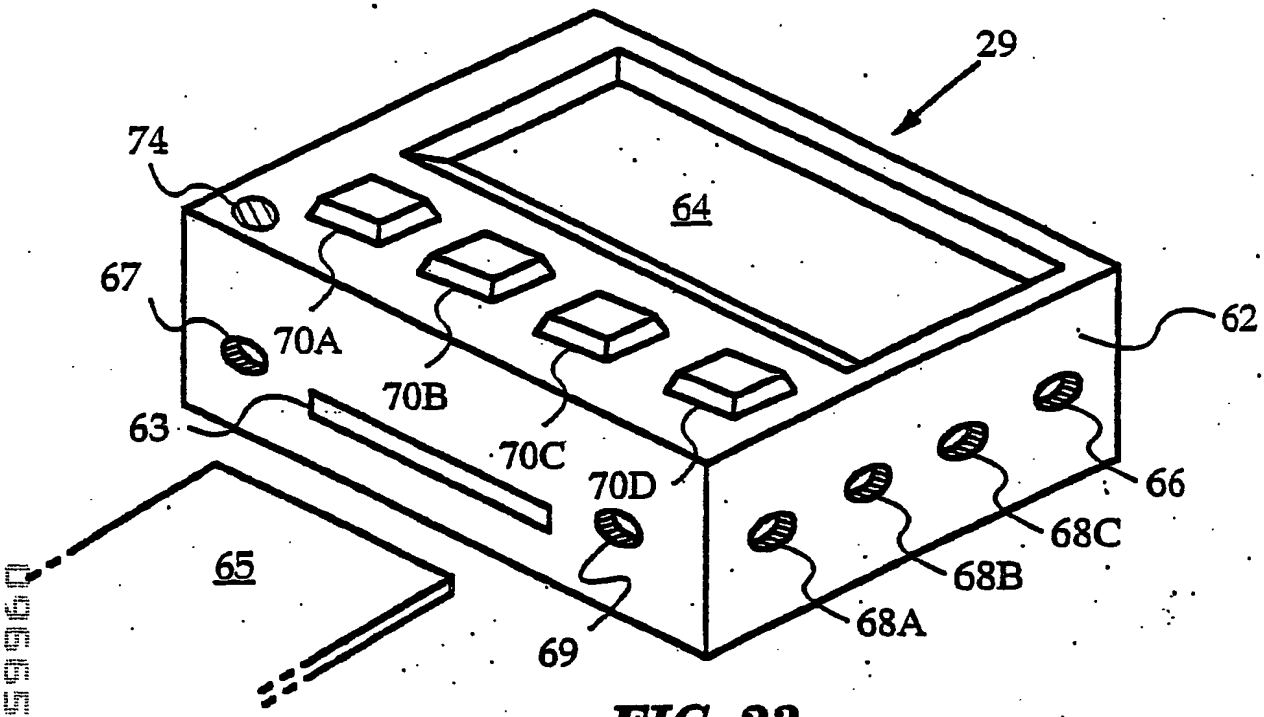

29
74
64
67
70A
70B
70C
70D
63
62
66
68C
68B
68A
65
69

FIG. 23

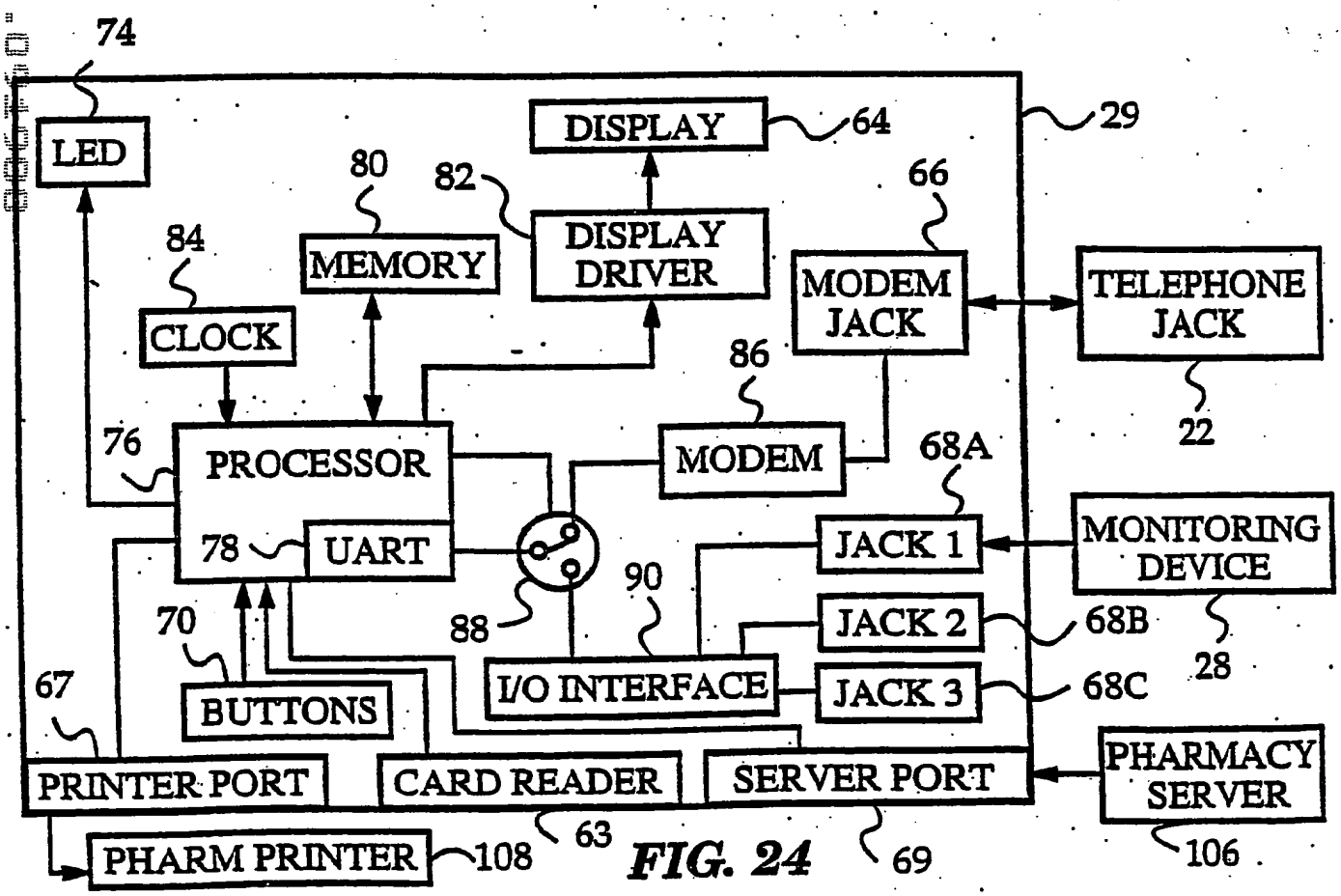

74
LED
DISPLAY
64
29
80
82
66
84
MEMORY
DISPLAY DRIVER
MODEM JACK
TELEPHONE JACK
CLOCK
86
76
PROCESSOR
MODEM
68A
22
78
UART
JACK 1
MONITORING DEVICE
90
JACK 2
68B
70
88
28
67
BUTTONS
I/O INTERFACE
JACK 3
68C
PRINTER PORT
CARD READER
SERVER PORT
PHARMACY SERVER
63
69
106
PHARM PRINTER
108

FIG. 24